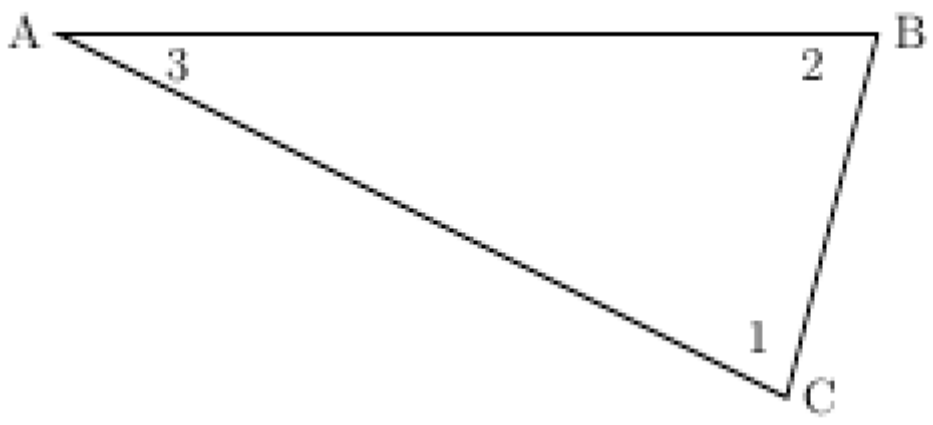
Topic: Naming simple geometric figures

Question: Which angles, in order, are the same as these angles?

$\angle BAC, \angle ACB, \angle CBA$



Answer choices:

A $\angle 3, \angle 1, \angle 2$

B $\angle 2, \angle 3, \angle 1$

C $\angle 1, \angle 2, \angle 3$

D $\angle 3, \angle 2, \angle 1$

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Solution: A

$\angle BAC$ is the upper left angle, and could also be named $\angle A$ or $\angle 3$.

$\angle ACB$ is the lower right angle, and could also be named $\angle C$ or $\angle 1$.

$\angle CBA$ is the upper right angle, and could also be named $\angle B$ or $\angle 2$.

Therefore, the answer is A.

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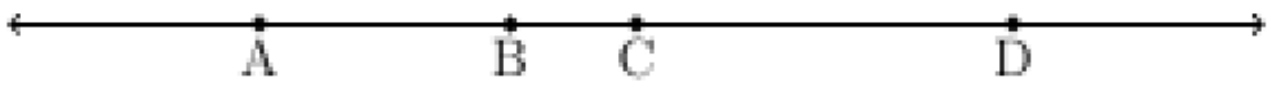
Question: In the figure below, which pairs of segments, rays, or lines overlap?



I	$\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$
II	$\overrightarrow{BA}$ and $\overrightarrow{CD}$
III	$\overline{AC}$ and $\overline{BD}$

Answer choices:

A I and II

B II and III

C I and III

D Only I

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Solution: C

I. $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are both lines that extend forever in both directions. So they will overlap their entire length.

II. $\overrightarrow{BA}$ and $\overrightarrow{CD}$ are rays. $\overrightarrow{BA}$ starts at B and extends to the left through A, but $\overrightarrow{CD}$ starts at C and extends to the right through D. They don't overlap.

III. $\overline{AC}$ and $\overline{BD}$ are line segments. $\overline{AC}$ overlaps $\overline{BD}$ from B to C.

Therefore, both I and III have overlaps.

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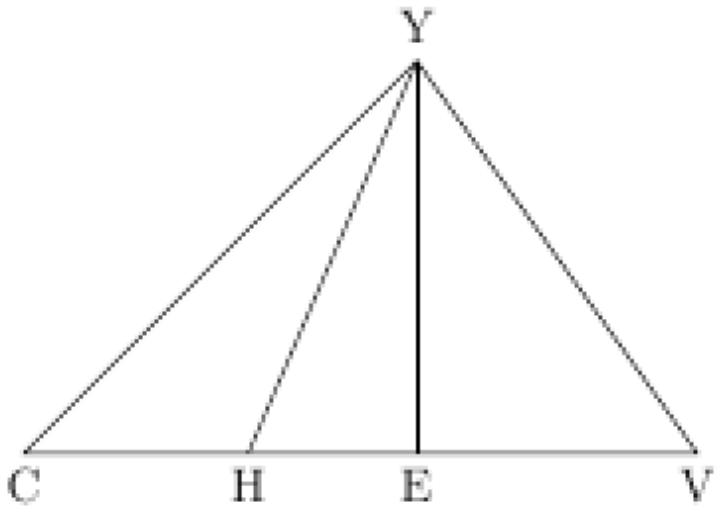
Question: In the figure below, how many angles can be named at point Y?



Answer choices:

A 3

B 4

C 5

D 6

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Solution: D

There are three small angles:

$$\angle CYH,\ \angle HYE,\ \angle EYV$$

Taking small angles two at a time, gives two angles:

$$\angle CYE,\ \angle HYV$$

There is only one angle made of three smaller angles:

$$\angle CYV$$

That makes a total of six named angles.

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